

A water trough is shaped like a half-cylinder with a half-cylinder with a half-hemisphere attached at each end. The volume, V , of the trough is represented by

$$V(r) = \frac{1}{3}\pi r^3 + 5\pi r^2,$$

where r is the radius of the cylinder and the hemispherical ends.

- Draw a diagram of the trough.
- Label the dimensions of the trough.
- What radius gives a total volume of 385 cubic feet? Show all work and explain all steps.

Score:

4

3

2

1

0

SHOW YOUR WORK

EXPLAIN

ANSWER: